CLAIMS

We claim:

1. A method of connecting, communicating or establishing communication between a client application on one client to a service application on another client, the method comprising a service application or component associated therewith on the other client establishing a first client-type connection with an intermediary, intermediary server or intermediary apparatus and the client application on the one client or component associated therewith establishing a second client-type connection with the intermediary, intermediary server or intermediary apparatus.

2. A method of connecting, communicating or establishing communication between a client application on a client and a server or service network, the method comprising the server or service network or a component associated therewith establishing a first client-type connection with an intermediary, intermediary server or intermediary apparatus and the client application on the client or a component associated therewith establishing a second client-type connection with the intermediary, intermediary server or intermediary apparatus.

3. A method of connecting, communicating or establishing communication between a client application on a server or service network and a service application on a client, the method comprising the service application or a component associated therewith establishing a first client-type connection with an intermediary, intermediary server or intermediary apparatus and a client on the server or service network or a component associated therewith establishing a second client-type connection with the intermediary, intermediary server or intermediary apparatus.

4. A method of connecting, communicating or establishing communication between a client of one server or service network and another server or service network, the method comprising the other server or service network or a component associated therewith establishing a first client-type connection with an intermediary, intermediary server or intermediary apparatus and the client of the one server or service network or a component associated therewith establishing a second client-type connection with the intermediary, intermediary server or intermediary apparatus.

5. A method of connecting two machines for communication therebetween, the method comprising one machine or a component associated therewith establishing a client-type relationship with an intermediary, intermediary server or intermediary apparatus and another machine or a component associated therewith establishing a client-type relationship with the intermediary, intermediary server or intermediary apparatus.

6. A method of establishing a Virtual Private Network between machines or service networks, the method comprising a first machine or service application or component associated therewith establishing a first client-type connection with an intermediary, intermediary server or intermediary apparatus and a second machine or service application or component associated therewith establishing a second client-type connection with an intermediary, intermediary server or intermediary apparatus.

7. A method according to any one of claims 1 to 6, the method further comprising receiving a communication, data or request from the client on the second connection and routing said communication or request along the first connection to the service application, server or service network or component associated therewith.

8. A method according to claim 7, the method further comprising receiving a communication or response from the service application, server or service network or component associated therewith on the first connection and routing said communication or response along the second connection to the client or client application.

9. A method according to any one of claims 1 to 8, wherein said component associated with the service application, server or service network is a proxy client or proxy client component with a client relationship with the service application, server or service network.

10. A method according to claim 9, wherein said proxy client or proxy client component receives the communication, data or request and passes said request to the associated service application, server or service network and forwards any response along the first connection to the intermediary.

11. A method according to claim 10, wherein the proxy client or proxy client component:

a) Acts as a client to the intermediary server and the service application, server or service network;

b) Initiates the first connection or subsequent connection with the intermediary server for receiving client requests;

c) Operably waits for the client request to be forwarded through the first connection;

d) Forwards the client request to the service application, server or service network; and

e) Forwards any responses from the service application, server or service network back to the intermediary server.

12. A method according to any one of claims 1 to 11, the method further comprising establishing the first connection, preferably holding open said first connection, establishing the second connection, receiving a request from the client on the second connection and routing said request along the first connection to the service application, server or service network.

13. A method according to claim 6 or any one of claims 7 to 12 when appended to claim 6, the method further comprising establishing the first connection, preferably holding open the first connection, establishing the second connection, receiving a client request from one machine or network through one of the connections and forwarding the client request along the other connection.

14. A method according to claim 13, the method further comprising receiving a response from said other connection and routing said response along said one of the connections.

15. A method according to any one of claims 6, 13 or 14, wherein a first proxy client or proxy client component with a client relationship with the first server, network or service application establishes the first connection and a second proxy client or proxy client component with a client relationship with the second server, network or server application establishes the second connection.

16. A method according to claim 15, wherein the first proxy client via the intermediary site receives requests from one or more clients of the second machine or network and processes said requests on a machine or network accessible to the first proxy client and returns the responses via the intermediary server, and the second proxy client via the intermediary site receives requests from one or more clients of the first machine or

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network and processes said requests on a machine or network accessible to the second proxy client and returns the responses via the intermediary server.

17. A method according to any one of claims 1 to 16, wherein a network request is forwarded by a client on one machine or network via a preferably modified router, a modified proxy server or special client configuration on or accessible to said machine or network to the intermediary site and then to the proxy client of the other server.

18. A method according to any one of claims 1 to 17, wherein a network response from said other machine or network is returned via a preferably modified router, a proxy client on said other machine or network to the intermediary site, to the proxy client of said one machine or network and then to said client on the one machine or network.

19. A method according to any of the preceding claims, the method allowing the publication of restricted services (behind a firewall, gateway, proxy server, using dynamic addresses or otherwise inaccessible) to clients on another network through the use of an intermediary.

20. A method according to any one of the preceding claims incorporating a virtual addressing facility whereby requests are forwarded from the intermediary through, preferably open, client-type connections as initiated by proxy client like components.

21. A method according to claim 20 incorporating application layer addressing, network or transport layer addressing.

22. A method according to claim 17, wherein a network response from said other machine or network is returned via other means on said other machine or network to the said original client on the one machine or network.

23. A method according to claim 17, wherein a network response from said other machine or network is returned via the intermediary site, to the modified router or original client of said one machine or network.

24. A method according to claim 20, wherein the addressing allows services to be presented through a virtual address on an intermediary machine.

25. A method according to claim 24, wherein the addressing allows services to be presented through a virtual address on an intermediary machine in an immediate manner so as to remove the need for file transfers and reconfigurations.

26. A method according to claim 25, wherein the addressing allows multiple services to be collated into a single address space.

27. A method according to any of the preceding claims, wherein the intermediary and virtual addressing allows services to be load distributed or clustered between multiple servers.

28. A method according to any of the previous claims, wherein the intermediary, proxy client or modified router are used to broadcast or multi-cast client requests to one or more service or service network and/ or service responses to one or more service or service network.

29. A method of Internet or Internet-type communication, the method comprising a first client or server establishing a client-type relationship with an intermediary server, a second client or server establishing a client-type relationship with the intermediary server and the intermediary server facilitating communications between the first client or server and the second client or server through the use of an intermediary and proxy client component.

30. A method according to any of the preceding claims, the method using one or more of encryption, data compression or authentication.

31. A method according to any one of the preceding claims, wherein any of data, signals, messages, requests and responses are transferred between two applications.

32. A method according to any one of the preceding claims, the method shielding the identity of a client-service action.

33. A method according to any one of the preceding claims, the method providing a secure communication channel.

34. A method substantially as described herein with reference to the accompanying drawings.

35. Means for carrying out a method of any one or more of claims 1 to 34, including software means.

36. A system adapted for carrying out a method of any one or more of claims 1 to 34, including a system incorporating a server.

37. A system substantially as described herein with reference to the accompanying drawings.

38. A proxy client or proxy client component comprising:
    a) Means to act as a client to a service application, server or service network;
    b) Means to act as a client to an intermediary server;
    c) Means to initiate a first or subsequent connection with the intermediary server;
    d) Means to wait and receive a client request through the first connection;
    e) Means to forward the client request to the service application, server or service network; and
    f) Optionally, means to forward any response from the service application, server or service network back to the intermediary server.

39. A proxy client or proxy client component substantially as described herein with reference to the accompanying drawings.

40. A server configured to act as an intermediary server, the server comprising:
    a) Means to allow a first client-type connection to be established with the server;
    b) Means to allow a second client-type connection to be established with the server; and
    c) Means to route a request from the first client-type connection to the second client-type connection for the purpose of processing the first request.

41. An intermediary server substantially as described herein with reference to the accompanying drawings.

42. A Virtual Private Network comprising machines or networks connected via client-type connection with an intermediary server.

43. A Virtual Private Network substantially as described herein with reference to the accompanying drawings.

44. A modified router or modified router component comprising:

a) Means to allow the capture of client network request and service network response datagrams;

b) Means to encapsulate datagrams with optional virtual addressing information interpretable by an intermediary, intermediary server or intermediary apparatus; and

c) Means to forward an encapsulated request to the intermediary for further forwarding through a proxy client type connection with the intermediary.

45. A modified router substantially as described herein with reference to the accompanying drawings.